CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 98-121

SITE CLEANUP REQUIREMENTS

PENNZOIL PRODUCTS COMPANY
ALAMEDA PENNZOIL SPECIALTY PLANT
ALAMEDA, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. **Site Location**: Pennzoil Products Company (hereinafter, the discharger) owns and operates a bulk oil packaging plant located at 2015 Grand Street, Alameda, Alameda County, California. The site is located approximately 1000 feet west of the Oakland inner harbor, as shown on figure 1.

2. **Purpose**: This Order establishes cleanup levels for onsite contamination and groundwater monitoring requirements.

3. **Site History**: Pennzoil has operated this site since 1951 as an oil packaging, blending and distribution site. Since September of 1995, Pennzoil has ceased blending and packaging of motor oil and currently only blends bulk road base oil and industrial lubricants. The site topography is flat to gently sloping. The facility consists of a tank farm that contained 29 oil storage tanks in 1951 and currently holds 48 aboveground bulk storage tanks as shown on figure 2. All tanks are currently in use. Four tanks store site storm water and the remaining are used for bulk motor oil and road base oil storage. The 48 tanks have a combined capacity of 3,045,758 gallons. The above ground tanks are surrounded by a four foot-high concrete secondary containment wall.

4. **Regulatory Status**:

   - This site is regulated under the Aboveground Petroleum Storage Tank program.
   - This site has been required to do a site investigation by letter issued pursuant to Water Code Section 13267.

5. **Site Hydrogeology:** Quarterly groundwater sampling from monitoring wells has been conducted since July 1995. The unconfined groundwater level beneath the tank farm was encountered at depths ranging from 1.2 to 4.7 feet below grade. Groundwater generally flows to the southeast at gradients ranging from 0.004 to 0.01 feet/foot. Shallow groundwater and steep gradients are encountered during the wet season (December through March).

Water table fluctuations during high tides indicate that brackish water from the Oakland Inner Harbor does influence groundwater elevations beneath the facility. Water table observations over a 24-hour period during a new moon (July 1995), when highest tides occur, indicated a maximum water table fluctuation of 0.6 inches beneath the tank farm.

6. **Summary of Groundwater Contamination:** Groundwater monitoring data and soil sample analyses performed between July 1995 and May 1996 have shown petroleum hydrocarbons in both the interior and in perimeter wells of the site, as follows:

a. Lubricating oils were discovered in the tank farm area on March 1, 1985. Further investigation indicated that the lube oils were floating on water confined within this area. Additional oil was spilled in the tank farm area on March 14, 1990. Initial cleanup included removal of oil, followed by water flushing. A total of 11,200 gallons of oil and water were removed. TPH soil samples (.5 to 1.5 feet below grade) were collected from five locations in the spill area. Free product was observed in some soil samples. In May 1990, three shallow well points were installed and the area was occasionally flushed with hot water. During subsequent sampling, free product was discovered in one of the hot water flushing wells. Additional TPH contaminated soil was observed by Board Staff in the tank farm area on subsequent inspections. The tank farm area is underlain by gravel fill.

Soil
- Inside containment TPH-motor oil ranging from 24 to 2500 mg/kg
- Outside containment TPH-motor oil ranging from ND to 13,000 mg/kg

Groundwater
- TPH-motor oil ranging from .6 to 1.8 mg/l
- Xylene at 5.4 mg/l in MW-4

b. Soil and groundwater contamination was also discovered in the excavation pit of two former waste oil UST's, located east of the containment area under the current warehouse. The source of this contamination is unknown and may have been associated with the former buried USTs.

Soil –
- TPH-motor oil 4500 mg/kg

Groundwater
TPH-motor oil 180 mg/l

c. Additionally, a 6,000 gallon gasoline and an 8,000 gallon diesel Underground Storage Tank (UST) were previously located adjacent to the shipping area. Both of the USTs

were removed in September, 1985, after leak testing indicated one of the USTs was leaking. Further investigation revealed TPH-gasoline and benzene in groundwater wells. Pennzoil will be installing a monitoring well in this area as part of the supplemental investigation identified in Provision C.1.

Soil TPH

- Gasoline 150 mg/l
- Benzene – 3.4 mg/l

Groundwater

- TPH – Gasoline 6.3 mg/l
- Benzene - .85 mg/l

7. **Monitoring Network**

Four monitoring wells (MW-1 through MW-4), were installed outside the existing containment area in July 1995. Additional groundwater monitoring wells were installed during a 1996 site investigation, adding five wells (MW-5 through MW-9) as shown on Figure 2.

8. **Basis for Groundwater Compliance Criteria**

a. **General**: State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives.

State Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

b. **Beneficial Uses**: The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface water and groundwater.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high total dissolved solids, low yield, or naturally high contaminant levels.

The existing and potential beneficial uses of shallow groundwater underlying and adjacent to the site include:

- Source of drinking water
- Industrial process water supply
- Industrial service water supply
- Freshwater replenishment to surface waters (San Francisco Bay)

The groundwater at the site presently meets the criteria for the sources of drinking water policy; however, there is evidence that groundwater pumping would result in saltwater intrusion and hence exceed the salinity criteria of this policy. Further study is needed to evaluate the practical potential for drinking water use of this aquifer.

The existing and potential beneficial uses of San Francisco Bay include:

- Industrial process supply or service supply
- Water contact and non-contact recreation
- Wildlife habitat
- Fish migration and spawning
- Navigation
- Estuarine habitat
- Shellfish harvesting
- Preservation of rare and endangered species

9. **Basis for 13304 Order**: The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance. Pennzoil has assumed responsibility for any environmental cleanup.

10. **Cost Recovery**: Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.

11. **CEQA**: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

12. **Notification**: The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

13. **Public Hearing**: The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which, will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup, which will cause significant adverse migration of wastes or hazardous substances, are prohibited.

B. GROUNDWATER COMPLIANCE CRITERIA

1. **Groundwater Compliance Criteria**: Since regulatory criteria for protection of human health and aquatic life do not currently exist for total petroleum hydrocarbons (TPH), maximum contaminant concentration levels in the point-of-compliance boundary monitoring wells will be based on criteria developed by the discharger using data obtained during site investigation work. These criteria will be established using a risked-based approach.

C. PROVISIONS

1. **SUPPLEMENTAL INVESTIGATION REPORT**

   Submit a technical report, acceptable to the Executive Officer, outlining the results of an investigation performed to further characterize site conditions.

   COMPLIANCE DATE: JANUARY 11, 1999

2. **STATISTICAL TREND ANALYSIS OF GROUNDWATER MONITORING DATA**

   Submit a technical report, acceptable to the Executive Officer, containing a workplan for performing a statistical trend analysis of groundwater monitoring data and documenting the results in the quarterly Self-Monitoring Program Groundwater Monitoring Reports. The analysis selected should be able to show the existence of increasing or decreasing concentration trends at a 95% confidence level.

COMPLIANCE DATE: JANUARY 11, 1999

3. **REMEDIAL ACTION PLAN**

Submit a technical report, acceptable to the Executive Officer, containing a plan and schedule for the implementation of site cleanup.

REPORT DUE DATE: APRIL 2, 1999

4. **DELAYED COMPLIANCE**

If the discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

5. **NO NUISANCE**

The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

6. **GOOD O&M**

The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

7. **COST RECOVERY**

The discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

8. **ACCESS TO SITE RECORDS**

In accordance with California Water Code Section 13267(c), the discharger shall permit the Board or its authorized representative:

a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

b. Access to copy any records required to be kept under the requirements of this Order.

c. Inspection of any monitoring or remediation facilities installed in response to this Order.

d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

9. **SELF MONITORING PROGRAM**

The discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.

10. **CONTRACTOR/CONSULTANT QUALIFICATIONS**

All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered engineer.

11. **LAB QUALIFICATIONS**

All samples shall be analyzed by State-certified laboratories using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).

12. **REPORTING OF CHANGED OWNER OR OPERATOR**

In the event of any change in control or ownership of land or facilities presently owned or controlled by the discharger. The discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. The discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on (CWC Sections 13267 and 13263). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and statement. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

13. **REPORTING OF A HAZARDOUS SUBSTANCE RELEASE**

If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

14. **PERIODIC SCR REVIEW**

The Board will review this Order periodically and may revise it when necessary.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 16, 1998.

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Loretta K. Barsamian
Executive Officer

Attachments: Figure 1 - Site Location Map
Figure 2 – Tank Farm Map/Well Location Map
Self-Monitoring Program

California Regional Water Quality Control Board
San Francisco Bay Region

Self Monitoring And Reporting Program

For

Pennzoil Products Company
Alameda Packaging Plant
Alameda

Alameda County

Order Number 98-121

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

PENZOIL PRODUCTS COMPANY
ALAMEDA PENNZOIL SPECIALTY PLANT
ALAMEDA, ALAMEDA COUNTY

1. **Authority and Purpose**: The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. 98-0XX (Site Cleanup Requirements).

2. **Monitoring**: The discharger shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following schedule:

   Quarterly Monitoring (Refer to Figure 2)

   Point-of-Compliance Boundary Wells (MW-1*, MW-2*, MW-3, MW-5, MW-10†, MW-11†)

   Interior Wells (MW-9, MW-8, MW-7, MW-6, MW-4)

   *Upgradient wells
   † New wells to be installed
   Analytes and Analytical Methods: All groundwater samples will be analyzed according to the following table:

Constituent	Analytical Method
Total Petroleum Hydrocarbons (TPH) as motor oil	USEPA Method 8015, modified Purgeable and Extractable
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	USEPA Method 8020
MtBE*	USEPA Method 8260

* If MtBE is not found in any site wells, after three monitoring events, the discharger may discontinue sampling for MtBE with concurrence from the Executive Officer.

The discharger shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Quarterly Monitoring Reports**: The discharger shall submit quarterly monitoring reports to the Board no later than 30 days following the end of the quarter (e.g. report for first quarter of the year due April 30). The first quarterly monitoring report shall be due on **April 30, 1999**. The reports shall include:

   a. Transmittal Letter: The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

   b. Groundwater Elevations: Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map shall be prepared for each monitored water-bearing zone.

   c. Groundwater Analyses: Groundwater sampling data shall be presented in tabular form, and an iso-concentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).

   d. Statistical Trend Analysis of Groundwater data: A statistical trend analysis shall be performed for all constituents which have been detected for four or more consecutive quarters starting at the date of adoption of this Self-Monitoring Program. Graphs of estimated trend lines shall be provided for all constituents that exhibit a significant trend at the 95% confidence level.

   e. Groundwater Extraction: If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.

   f. Status Report: The quarterly report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following quarter.

4. **Annual Report**: By January 30 of each year, the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall be combined with the fourth

quarter report. This report shall contain:

a. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a 5-1/4" or 3-1/2" computer data disk, MS-Excel format, tabulating the year's data.

b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the site cleanup requirements.

c. A written summary of the groundwater analyses indicating any change in the quality of the groundwater

5. **Violation Reports**: If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.

6. **Other Reports**: The discharger shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

7. **Record Keeping**: The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.

8. **SMP Revisions**: Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Loretta K. Barsamian, Executive Officer, hereby certify that this Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with site cleanup requirements established in this Board's Order No. 98-121.

2. Is effective on the date shown below.

Date Ordered: December 16, 1998.

_____
Loretta K. Barsamian
Executive Officer